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WHAT IS CLAIMED IS:

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1. A data transmission method for host and target devices, connected by a serial bus, said method comprising the steps of:
    - 5 performing bi-directional communication between said host and target devices; and setting a data transfer method to be performed from a plurality of data transfer methods including a PULL model in which said target device reads data from
    - 10 said host device, based on the bi-directional communication.
  2. The method according to claim 1, wherein the data transfer methods further include a response model in
  - 15 which a response is returned in a unit of block transfer, a simplified response model in which a response of the response model is to simplify, a Push model in which said host device writes data into said target device and an Isochronous model using an isochronous transfer.
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  3. The method according to claim 1, wherein the host device sets the data transfer method, set in said target device, as a data transfer method for said host device.

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4. The method according to claim 1, wherein the PULL model is a PULL data transfer method in which data transfer is performed by reading data of said host device by said target device.

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5. The method according to claim 1, wherein the serial bus is a bus adapted to or based on the IEEE 1394 standards.

10 *8.* The method according to claim 1, wherein the serial bus is a bus adapted to or based on Universal Serial Bus standards.

*SUPR* 7. The method according to claim 1, wherein said host device provides image data.

8. The method according to claim 1, wherein said target device forms a visible image, based on the image data, on a print medium.

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9. The method according to claim 1, wherein said target device stores the image data into a storage medium.

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13. The apparatus according to claim 12, wherein the data transfer methods further include a response model, a simplified response model, a PUSH model and an isochronous model.

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14. The apparatus according to claim 12, wherein said setting means sets a data transfer method, set in said target device.

10 15. The apparatus according to claim 12, wherein the PULL model is a PULL data transfer method in which data transfer is performed by reading data of said host device by said target device.

15 14 16. The apparatus according to claim 12, wherein image data is transferred.

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17. A data transmission apparatus connected to a serial bus, said apparatus comprising:

20 communication means for performing bi-directional communication with a host device; and transfer means for performing data transfer with said host device by a data transfer method set from a plurality of data transfer method including a PULL model,

26. The method according to claim 25, wherein the  
asynchronous transfer includes a Push Buffer model in  
which said host device writes data into said target  
device and a Pull Buffer model in which said target  
device reads data from said host device.

27. The method according to claim 25, wherein said  
host device sets a data transfer method corresponding to  
said target device, based on the procedure signal  
transferred by the common asynchronous transfer.

28. The method according to claim 25, wherein said  
host device selects the isochronous transfer or the  
asynchronous transfer based on the procedure signal  
transferred by the common asynchronous transfer.

29. The method according to claim 25, wherein the  
serial bus is a bus adapted to or based on the IEEE 1394  
standards.

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30. The method according to claim 25, wherein the  
serial bus is a bus adapted to or based on Universal  
Serial Bus standards.

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the asynchronous transfer, based on the procedure signal transferred by the common asynchronous transfer.

35. 40. The apparatus according to claim 36, wherein the 5 data transmitted by said transmission means is image data.

36. 41. A data transmission apparatus connected to a serial bus, comprising:

10 transfer means for transferring a procedure signal for data transfer by asynchronous transfer common to a host device; and  
reception means for receiving data from said host device by isochronous transfer or asynchronous transfer.

15 42. The apparatus according to claim 41, wherein the asynchronous transfer includes a PUSH buffer model and a PULL buffer model.

20 43. The apparatus according to claim 41, wherein said host device sets a data transfer method corresponding to said reception means, based on the procedure signal transferred by the common asynchronous transfer.

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received from said host device via said communication means.

36. A data transmission apparatus connected to a  
5 serial bus, comprising:

transfer means for transferring a procedure signal for data transfer by asynchronous transfer common to a target device; and

- transmission means for transmitting data to be  
10 transmitted to said target device by isochronous transmission or asynchronous transmission.

37. The apparatus according to claim 35, wherein the  
isochronous transfer includes a PUSH buffer model and a  
15 PULL buffer model.

38. The apparatus according to claim 36, wherein said  
transmission means sets a data transfer method  
corresponding to said target device, based on the  
20 procedure signal transferred by the common asynchronous  
transfer.

39. The apparatus according to claim 36, wherein said  
transmission means selects the isochronous transfer or

*31* 31. The method according to claim 25, wherein said host device provides image data.

5 32. The method according to claim 25, wherein said target device forms a visible image, based on the image data, on a print medium.

10 33. The method according to claim 25, wherein said target device stores the image data into a storage medium.

15 34. An image processing apparatus comprising:  
communication means for performing communication  
with a target device by the data transfer method in  
claim 25; and  
transmission means for transmitting image data to  
said target device via said communication means.

20 35. An image processing apparatus comprising:  
communication means for performing communication  
with a host device by the data transfer method in claim  
25; and  
processing means for processing image data

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setting means for setting a data transfer method to be set from a plurality of data transfer methods including a PULL model, based on the bi-directional communication.

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23. The system according to claim 22, wherein the data transfer methods further include a response model, a simplified response model, a PUSH model and an isochronous model.

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24. The system according to claim 22, wherein the PULL model is a PULL data transfer method in which data transfer is performed by reading data of said host device by said target device.

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25. A data transmission method of host and target devices which are connected by a serial bus, said method comprising the steps of:

transferring data from said host device to said target device, by isochronous transfer or asynchronous transfer; and

transferring a procedure signal for transfer of the data to said host and target devices by common asynchronous transfer.

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based on the bi-directional communication.

18. The apparatus according to claim 17, wherein the data transfer methods further include a response model,  
5 a simplified response model, a PUSH model and an isochronous model.

19. The apparatus according to claim 17, wherein the data transfer method is set by said host device.

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20. The apparatus according to claim 17, wherein the PULL model is a PULL data transfer method in which data transfer is performed by reading data of said host device by said target device.

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21. The apparatus according to claim 17, further comprising formation means for forming a visible image based on data received by said transfer means on a print medium.

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22. A data transmission system for transferring data through a serial bus, comprising:  
communication means for performing bi-directional communication between host and target devices; and

10. An image processing apparatus comprising:  
communication means for performing communication  
with a target device by the data transfer method in  
claim 1; and  
5 transmission means for transmitting image data to  
said target device via said communication means.

11. An image processing apparatus comprising:  
communication means for performing communication  
10 with a host device by the data transfer method in claim  
1; and  
processing means for processing image data  
received from said host device via said communication  
means.  
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12. A data transmission apparatus connected to a  
serial bus, comprising:  
communication means for performing bi-directional  
communication with a target device; and  
20 setting means for setting a data transfer method  
to be performed from a plurality of data transfer method  
including a PULL model, based on the bi-directional  
communication.

44. The apparatus according to claim 41, wherein said host device selects the isochronous transfer or the asynchronous transfer based on the procedure signal transferred by the common asynchronous transfer.

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45. The apparatus according to claim 41, further comprising formation means for forming a visible image based on data received by said reception means on a print medium.

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46. A data transmission system for transferring data through a serial bus, comprising:

first transfer means for transferring a procedure signal for data transfer by common asynchronous transfer  
15 to host and target devices; and

second transfer means for performing data transfer between said host and target devices by isochronous transfer or the asynchronous transfer.

20 47. The system according to claim 46, wherein the asynchronous transfer includes a PUSH Buffer model and a PULL Buffer model.

48. The system according to claim 46, wherein said

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host device sets a data transfer method corresponding to said target device, based on the procedure signal transferred by the common asynchronous transfer.

- 5 49. The system according to claim 46, wherein said host device selects the isochronous transfer or the asynchronous transfer based on the procedure signal transferred by the common asynchronous transfer.
- 10 50. A computer program product comprising a computer readable medium having computer program codes, for executing data transmission of host and target devices which are connected by a serial bus, said product comprising:
  - 15 communication process procedure codes for performing bi-directional communication between said host and target devices; and setting process procedure codes for setting a data transfer method to be performed from a plurality of data transfer methods including a PULL model.
  - 20 51. A computer program product comprising a computer readable medium having computer program codes, for executing data transmission of host and target devices

which are connected by a serial bus, said product comprising:

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- first transmission process procedure codes for transferring a procedure signal for data transfer by
- 5 common asynchronous transfer to said host and target devices; and
- second transmission process procedure codes for performing the data transfer between said host and target devices by isochronous transfer or the
- 10 asynchronous transfer.